MEMORANDUM

TO: Angela D. Marconi, P.E., BCEE

FROM: Lindsay Rennie

SUBJECT: **Delaware City Refining Company**
***"Proposed"* Federally Enforceable Operation Permit**
Permit: APC-1990/0290-OPERATION (Amendment 13)(FE) – Boiler 3
Permit: APC-1990/0291 – OPERATION (Amendment 6)(FE) – Boiler 4
Permit: APC-97/0503-CONSTRUCTION (Amendment 11)(NSPS)(FE) – CCUs I and II; and
Permit: APC-82/0981-OPERATION (Amendment 13)(NSPS)(FE) – FCCU

DATE: October 14, 2019

BACKGROUND
The Delaware City Refining Company requested amendments to operation permits of NO_X producing equipment on July 11, 2019. The Company would like the terms and conditions of **Permit: Permit: APC-1990/0290-OPERATION (Amendment 13)(FE)**, **Permit: APC-1990/0291 – OPERATION (Amendment 6)(FE),** **Permit: APC-97/0503-CONSTRUCTION (Amendment 11)(NSPS)(FE),** and **Permit: APC-82/0981-OPERATION (Amendment 13)(NSPS)(FE)** made federally enforceable so they can be transferred to the Company's Title V Operating Permit (**AQM-003/00016 – Part 3 (Renewal 2)(Revision 4)**) via the administrative permit amendment process specified in 7 DE Admin. Code 1102 Sections 11.2.10, 12.4 and 12.5.

Boiler Permits
DCRC submitted two appeals related to the boiler permits. The Steam Injection project permits (**Permit: APC-90/0290-OPERATION (Amendment 10) – Boiler 3** and **Permit: APC-90/0291-OPERATION (Amendment 3) – Boiler 4**) were issued May 19, 2014; the construction permits were issued July 15, 2013. These permits allowed the operation of a steam injection system and reduced the NO_X limits from the 0.2 lb/mmbtu RACT limit to 0.16 lb/mmbtu on a 24 hour rolling average basis.

DCRC submitted a second appeal after the issuance of the Induced Flue Gas Recirculation (IFGR) Project permits (**Permit: APC-90/0290-CONSTRUCTION/OPERATION (Amendment 12)(FE) – Boiler 3** and **Permit: APC-90/0291-CONSTRUCTION/OPERATION (Amendment 5)(FE) – Boiler 4**) dated January 15, 2015. This permitting action allowed the construction and operation of an IFGR system that reduced the NO_X limits from 0.16 lb/mmbtu to 0.13 lb/mmbtu on a 24 hour rolling average basis. This permit contained a 6 hour exemption during startup and shutdown periods during which the NO_X limit would return to the 0.2 lb/mmbtu RACT limit.

Each project has an existing amendment for each boiler; the new permits combines provisions of both projects, as appropriate, into a single amendment for each of Boiler 3 and 4. The permits retain the NO_X emission limits of 0.13 lb/mmbtu. The six hour start-up and shutdown exemption remains and clarifies that the unit must stay below the 0.2 lb/mmbtu RACT limit. The RACT limit also applies during periods of maintenance and malfunctions, as well as during abnormal steam demands not to exceed 7 days. The steam injection systems divert steam for NO_X reduction that could otherwise be used to start up other units during refinery-wide upsets.

Combined Cycle Unit Permits
The Combined Cycle Units (I and II) received a permit for Selective Catalytic Reduction (SCR) systems. **Permit: APC-97/0503-CONSTRUCTION/OPERATION (Amendment 10) NSPS** was issued on July 2, 2014. An operation permit was not issued, the conditions of this amendment were rolled directly into the Title V permit. The project reduced NO_X emissions from 15 ppm to 3 ppm (without duct firing) and 18 ppm

to 3.6 ppm (with duct firing). The amended permit extends the 3/3.6 ppm hourly averages into 24-hour average periods. It further provides an exemption from the 3/3.6 ppm limit during periods of maintenance or malfunction of the SCR. During these SCR outages, the facility must comply with the higher 15/18 ppm NO_x emission limits of the unit. Additionally, the permit creates a petition provision whereby the facility may request alternative limits for the SCR for a defined period. The petition process is to allow the SCR to operate in a compromised state rather than require the facility to operate without the SCR at the higher limit via the maintenance exemption.

Fluid Catalytic Cracking Unit Permit

The Fluid Catalytic Cracking Unit (FFCU) received **Permit: APC-82/0981-CONSTRUCTION (Amendment 12)(NSPS)** on April 23, 2015 to install a Selective Non-Catalytic Reduction (SNCR) system to the Carbon Monoxide Boiler (COB); the operation permit was issued on March 23, 2017. The revised permit retains the emission limits of 108.2 ppm on a 7 day rolling average and 79.3 ppmvd on a 365 day rolling average @ 0% oxygen. The permit provides an exemption from those limits during periods of malfunction. Instead the facility must meet the higher limits of 137.0 ppmvd on a 7 day rolling average basis and 100.7 ppmvd on a 365 day rolling average basis at 0% oxygen. These higher limits existed prior to the installation of the SNCR and are applicable at all times that the FCCU COB is operating.

APPLICATION

A "Draft" of the federally enforceable construction permit was completed on July 1, 2019 and sent to the Delaware City Refining Company by email. Copies of the "Draft" federally enforceable construction permit and Memorandum were sent to Matthew Willson of the EPA Region III Office by e-mail on July 19, 2019. The States of Maryland, Pennsylvania, and New Jersey were given notice by email of the Department's intent to approve a federally enforceable construction permit for the Delaware City Refining Company on July 19, 2019. The "Draft" federally enforceable construction permit was advertised for public notice on Sunday, July 28, 2019 in the *Sunday News Journal* and the *Delaware State News*. The public comment period ended on August 26, 2019. Comments were submitted by Matthew Willson of the EPA Region III Office (EPA) on August 14, 2019, and comments and a request for a public hearing were submitted on August 26, 2019 by Mark Martell, President of the Delaware Audubon Society (AS). The Audubon Society withdrew its request for a public hearing on October 8, 2019.

Comment Reference	Comment Summary	Responses/Actions Taken by AQM
EPA	Condition 2.1.1.3 provides for an alternative limit during periods of planed startup and shutdown. It is unclear if this alternative limit also applies during periods of malfunction described in Condition 2.1.1.4. Please clarify if the alternative limit found in Condition 2.1.1.3 is applicable under the scenario described in 2.1.1.4.	Underlined text added to Condition 2.1.1.4 to clarify applicable emission limits. Condition 2.1.1.2 shall not apply during periods when the Steam Injection and/or IFGR is unavailable due to maintenance, malfunction, steam emergency or other abnormal steam demand scenarios for a period not to exceed 7 days as defined in Condition 3.3. Instead, the boilers shall not exceed 0.2. lbs/mmbtu on a 24 hour average basis.

Comment Reference	Comment Summary	Responses/Actions Taken by AQM
AS 1	Because DNREC issued permits that the Refinery then appealed, the draft permits now at issue must be considered revisions or modifications to the original permits. 40 C.F.R. § 70.7 governs permit modifications/revisions. This federal regulation prohibits the issuance of a permit modification unless "The permitting authority has received a complete application for a permit, permit modification, or permit renewal." § 70.7(a)(1). There is no evidence in the Settlement Agreement or in the public notice that an application has been submitted by the Refinery.	No changes made. DCRC submitted applications to construct control devices at the boilers on April 17, 2013 and October 16, 2014; the combined cycle units on October 23, 2013; and the fluid catalytic cracking unit on December 17, 2014. These applications were public noticed as part of the original permitting actions and are made available as part DNREC's public facing document database.
AS 2	40 C.F.R. § 70.7(h) requires that the permitting authority must also make available and provide public notice of the availability of the permit application and underlying materials. Delaware regulations echo this requirement. See 7 Del. Admin. C. 1102 § 12.2.1. The public notice fails to satisfy these requirements.	The new underlying materials including the Settlement Agreement, technical memorandum, and permits showing changes to each condition were made available at the Division of Air Quality offices and upon request via email.
AS 3	7 Del. Admin. C. 1102 § 12.2.5 says that DNREC provides for public participation by "Considering all comments submitted by the applicant and the public in reaching its final determination." Here, the decision is already made; DNREC and the Refinery have agreed to the terms of the draft permits, reached settlement based on those agreed terms, and will resolve the underlying appeals by the adoption of the permits with the already-agreed terms. In such a context, the "public comment" occasioned by the public notice appears to be more a case of DNREC going through the motions of appearing to want public comment without much intent or incentive to pay attention to public comment.	No changes made. The Settlement Agreement contains provisions that require the permits to go through the normal public notice process. At the conclusion of the public notice period, DNREC will issue permits based on the comments submitted, if any. If the Final permits differ significantly from the Draft permits, DCRC may preserve their appeals and the original and the new Final permits will be brought before the Environmental Appeals Board. The Settlement Agreement states in Item II.3, "DNREC will publish as draft permits the proposed revised permits included within Attachment "B" (the

Comment Reference	Comment Summary	Responses/Actions Taken by AQM
		"Draft Revised Permits") and take all necessary and lawful procedural steps to afford public notice of the Draft Revised Permits in accordance with DNREC's administrative procedures. Following completion of such process, DNREC will consider any public comment provided, make any necessary or advisable revisions to the Draft Revised Permits, and issue final air quality permits for each of the Draft Revised Permits (the "Final Revised Permits"). The Final Revised Permits may vary from the Draft Revised Permits based on consideration of relevant and applicable comments submitted during the public notice process." Further Item II.4 states in part "Upon issuance of each Final Revised Permit, DCRC shall withdraw its corresponding appeal; provided however that, if the Final Revised Permit differs in any material respect from the provisions of the corresponding Draft Revised Permit, DCRC may elect to preserve its pending appeal of the corresponding air permit. In addition, DCRC may appeal any provision of a Final Revised Permit that materially differs from the corresponding Draft Revised Permit."

No other changes have been made to the attached "Proposed" federally enforceable construction permit for the Delaware City Refining Company.

RECOMMENDATION

It is recommended that the attached "Proposed" federally enforceable construction permits be reviewed and submitted by e-mail to EPA Region III. EPA has forty-five (45) days to either approve or deny the "Proposed" federally enforceable construction permits.

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pc: Dover Title V File / Lindsay Rennie

Month XX, 2019

"Proposed" Permit: APC-90/0290-OPERATION (Amendment 13)(FE) – Boiler 3
"Proposed" Permit: APC-90/0291-OPERATION (Amendment 6)(FE) – Boiler 4
Delaware City Power Plant – Boilers 3 & 4 Steam Injection and Induced Flue Gas Recirculation Projects
Delaware City Refinery

Delaware City Refining Company
4550 Wrangle Hill Road
Delaware City, DE 19706

ATTENTION: Jeffery Coleman
Refinery Manager

Dear Mr. Coleman:

Pursuant to 7 **DE Admin. Code** 1102, Section 2.1.3, approval of the Department of Natural Resources and Environmental Control is hereby granted for the operation of Boilers 3 and 4 Steam Injection Project and Induced Flue Gas Recirculation (IFGR) Project on Riley Stoker Boiler 3 with a design heat input of 618 mmBtu/hour and Foster Wheeler Boiler 4 with a design heat input of 737 mmBtu/hour, located at the Delaware City Power Plant in the Delaware City Refinery in accordance with the following documents:

- Application submitted on Forms AQM-1, AQM-2, AQM-3.1 and AQM-5 dated April 12, 2013 and signed by Herman Seedorf;
- Application submitted on Forms AQM-1, AQM-2, AQM-3.1 and AQM-5 dated October 16, 2014 and signed by Jose Dominguez.
- Settlement Agreement dated July 11, 2019.

This permit is issued subject to the following conditions:

1. **General Provisions**

1.1. This permit expires 5 years from the date of issuance.

1.2. Representatives of the Department may, at any reasonable time, inspect this facility.

1.3. This permit may not be transferred to another person, owner, or operator unless the transfer has been approved in advance by the Department. Approval (or disapproval) of the permit transfer will be provided by the Department in writing. A request for a permit

transfer shall be received by the Department at least 30 days before the date of the requested permit transfer. This request shall include:

1.3.1 Signed letters from each person stating the permit transfer is agreeable to each person; and

1.3.2 An Applicant Background Information Questionnaire pursuant to 7 Del C. Chapter 79 if the person receiving the permit has not been issued any permits by the Department in the previous 5 years.

1.4 The owner or operator shall not initiate construction, install, or alter any equipment or facility or air contaminant control device which will emit or prevent the emission of an air contaminant prior to submitting an application to the Department pursuant to 7 DE Admin. Code 1102, and, when applicable 1125, and receiving approval of such application from the Department; except as authorized by this permit or exempted in the Regulations.

1.5 The owner or operator shall submit a complete supplement to the Title V permit application pursuant to 7 DE Admin. Code 1130, Section 5(b) within 12 months of the date of issuance of this permit. The application shall address all applicable requirements including those of 40 CFR Part 64 (Compliance Assurance Monitoring) if applicable.

2. Emission Limitations

2.1 For the purpose of this condition, "TPY" is defined as "tons emitted in any rolling twelve month period". Air contaminant emission levels from the operation of Boilers 2, 3, 4, and the CCUs, shall not exceed the following and those specified by 7 **DE Admin. Code** 1100:

2.1.1 NO_x:

2.1.1.1 NOx emissions shall not exceed those prescribed in Condition 3, Table 1a.5.i. of **Permit: AQM-003/00016 – Part 3 (Renewal 2)(Revision 3)** dated April 12, 2018.

2.1.1.2 NO_x emissions shall not exceed those achieved by proper operation of the boilers and associated Steam Injection and IFGR systems and 0.13 lb/mmBtu from each of Boilers 3 & 4 on a 24-hour rolling average.

2.1.1.3 The lb/mmBtu emissions standards for Boilers 3 & 4 in Condition 2.1.1.2 shall not apply during periods not to exceed 6 hours during each planned startup and shutdown. Instead, the boilers shall not exceed 0.2 lbs/mmbtu on a 24 hour average basis.

2.1.1.4 Condition 2.1.1.2 shall not apply during periods when the Steam Injection and/or IFGR is unavailable due to maintenance, malfunction, steam emergency or other abnormal steam demand scenarios for a period not to exceed 7 days as defined in Condition 3.3. Instead, the boilers shall not exceed O.2. lbs/mmbtu on a 24 hour average basis.

2.1.2 Sulfur Dioxide (SO_2) Emissions:
SO_2 emissions from the CCUs, Boilers 2, and 3 combined shall not exceed 306.4 TPY. SO_2 emissions shall not exceed the following unit specific limits: 71.2 TPY for Boiler 2, 61.4 TPY for Boiler 3.

2.1.3 Carbon Monoxide (CO) Emissions:

Boiler 2, and 92.0 TPY for Boiler 3. CO emissions shall not exceed 0.034 lb/mmBtu for Boiler 2 and 3 on a 24-hour rolling average basis

2.1.4 Particulate Matter (PM_{10}) Emissions:

2.1.4.1 PM_{10} emissions from the CCUs, Boilers 2, and 3 combined shall not exceed 311.0 TPY (inclusive of 235.4 TPY H_2SO_4 mist from Boilers 2 & 3 and the CCUs). PM_{10} emissions shall not exceed the following unit specific limits: 27.8 TPY for Boiler 2, and 92 TPY for Boiler 3.

2.1.4.2 PM_{10} emissions including H_2SO_4 shall not exceed the following limits:

2.1.4.2.1 0.0104 lb/mmBtu when firing natural gas or refinery fuel gas in Boilers 2, and 3.

2.1.5 Total Suspended Particles (TSP) Emissions:

2.1.5.1 TSP emissions from the CCUs, Boilers 2, and 3 combined shall not exceed 78.7 TPY. TSP emissions shall not exceed the following unit specific limits: 15.7 TPY for Boiler 2, and 13.5 TPY for Boiler 3.

2.1.5.2 TSP emissions shall not exceed the following limits:

2.1.5.2.1 0.0062 lb/mmBtu when firing natural gas or refinery fuel gas in Boilers 2 and 3.

2.1.5.2.2 [RESERVED]

2.1.6 Volatile Organic Compounds (VOC) Emissions:

2.1.6.1 VOC emissions from the CCUs, Boilers 2, and 3 combined shall not exceed 22.7 TPY. VOC emissions shall not exceed the following unit specific limits: 4.4 TPY for Boiler 2, and 3.8 TPY for Boiler 3.

2.1.6.2 VOC emissions shall not exceed the following limits:

2.1.6.2.1 0.0014 lb/mmBtu when firing natural gas or refinery fuel gas in Boilers 2, and 3.

2.1.7 Sulfuric Acid (H_2SO_4) Emissions:
Emissions from the CCUs and Boiler 2, and 3combined shall not exceed 235.4 TPY. H_2SO_4 emissions shall not exceed the following unit specific limits: 10.9 TPY for Boiler 2, 71.6 TPY for Boiler 3.

2.1.8 Lead (Pb) Emissions:
Pb emissions from the CCUs and Boiler 3 combined shall not exceed 0.02 tons on a rolling twelve month basis.

2.2 None of the boilers shall emit visible air contaminants exceeding 20% opacity for an aggregate of more than 3 minutes in any 1 hour period, or more than 15 minutes in any 24 hour period.

2.3 Odors from this source shall not be detectable beyond the plant property line in sufficient quantities such as to cause a condition of air pollution.

3. Operational Limitations:

3.1 Only desulfurized refinery fuel gas (RFG) with a hydrogen sulfide content less than 0.1 grain/dscf on a 3 hour rolling average and/or natural gas may be fired in Boilers 2, 3, and 4.

3.2 Except during periods of startup and shutdown, the burner steam injection systems and IFGR systems in Boilers 3 and 4 shall be working in a manner consistent with maintaining 0.13 lb/MMBtu NOX on a 24 hour rolling average.

3.3 Except as provided by Condition 3.3.2, Boilers 3 and/or 4 shall not be operated unless the respective Steam Injection and IFGR systems are in use and operating properly whenever the systems are available. Compliance with the emission limitation in 2.1.1 shall constitute proper operation. The Owner/operator shall operate the IFGR system for each boiler in accordance with manufacturer's recommendations.

3.3.1 The IFGR and/or Steam Injection systems are considered available except during periods of planned maintenance or malfunction as defined below or during periods of steam emergency or other abnormal steam demand scenarios.

3.3.2 "Malfunction" means any sudden and unavoidable failure of air pollution control equipment or process equipment or of a process to operate in a normal or usual manner, and that causes the source to exceed a technology based emission limitation under the permit, due to unavoidable increases in emissions attributable to the malfunction. An emergency or malfunction shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

3.3.3 Steam emergency/abnormal steam demand means an upset of the refinery steam header system resulting in the need for operating steam generating sources to significantly or rapidly adjust their loads to attempt to maintain or restore stable operations. Such periods shall not exceed 7 days in duration.

3.4 At all times, including periods of startup, shutdown, and malfunction, the owner or operator shall maintain and operate the equipment and processes covered by this Permit, including all structural and mechanical components of all equipment and processes and all associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

4. Compliance Methodology, Testing and Monitoring Requirements

4.1 Compliance with Condition 2.1.1 for Boilers 2, 3, 4 and the CCUs shall be demonstrated using a Continuous Emissions Monitoring Systems (CEMS) for NO_x and O_2. The CEMS for Boilers 2, 3 and the CCUs shall conform to the applicable Performance Specifications in 40 CFR, Part 60, Appendix "B" and the Quality Assurance/Quality Control (QA/QC) procedures for NO_x CEMS in accordance with 40 CFR Part 60, Appendix "F". The CEMS for Boiler 4 shall conform to the applicable Performance Specifications in 40 CFR, Part 75, Appendix "A" and the Quality Assurance/Quality Control (QA/QC) procedures for NO_x CEMS in accordance with 40 CFR Part 75, Appendix "B".

4.2 Compliance with Condition 2.1.2 shall be demonstrated using the Refinery Fuel Gas H_2S Continuous Monitoring System (CMS) for emissions from Boilers 2 and 3. The CEMS shall

conform to Performance Specification 2 in 40 CFR, Part 60, Appendix "B" and the Quality Assurance/Quality Control (QA/QC) procedures in accordance with 40 CFR Part 60, Appendix "F".

4.3 Compliance with Condition 2.1.3 shall be demonstrated by using CEMS on Boiler 2 and by a stack test based emissions factor and fuel flow rate for Boiler 3. The QA/QC procedures for the CO CEMS shall be established in accordance with the procedures in Appendix "F" of 40 CFR 60.

4.4 Compliance with Conditions 2.1.4, 2.1.5 and 2.1.6 shall be demonstrated by firing only natural gas or by using annual stack test based emissions factors while firing RFG and RFG fuel flow rates for the boilers.

4.5 Compliance with Condition 2.1.7 for Boilers 2 and 3 shall be demonstrated by applying the fuel gas monitored H_2S content to the H_2SO_4 conversion factor.

4.6 Compliance with Condition 2.1.8 shall be based on firing only natural gas or, desulfurized fuel gas.

4.7 Compliance with Conditions 2.2 for Boilers 2, 3 and 4 shall be based on COMS. The COMS shall conform to Performance Specification 1 in 40 CFR, Part 60, Appendix "B".

4.9 The Company shall conduct the following stack tests for Boiler 3 annually:

4.9.1 EPA Reference Method 5 for TSP
4.9.2 EPA Reference Method 5B/202 for PM_{10}, including H_2SO_4
4.9.3 EPA Reference Method 10 for CO except for Boiler 2
4.9.4 EPA Reference Method 25 A for VOC
4.9.5 EPA Reference Method 8 for H_2SO_4
4.9.6 Within 90 days after achieving the maximum production rate at which the facility will be operated, but not later than 180 days after initial startup of such facility, the owner or operator shall conduct performance test(s) and furnish the Department with a written report of the results of such performance test(s) in accordance with the following general provisions:

4.9.6.1 One original and 2 copies of the test protocol shall be submitted a minimum of 30 days in advance of the tentative test date to the address in Condition 6.3. The tests shall be conducted in accordance with the State of Delaware and Federal requirements.

4.9.6.2 The test protocol shall be approved by the Department prior to initiating any testing. Upon approval of the test protocol, the Company shall schedule the compliance demonstration with the Air Surveillance and Engineering & Compliance Branches. The Department must observe the test for the results to be considered for acceptance, unless the Department determines in advance, in writing, that the test need not be observed. Further, the Department may in its discretion determine based on its observation of the test that it need not observe the entire test.

4.9.6.3 The final results of the testing shall be submitted to the Department within 90 days of the test completion. One original and 2 copies of the test report shall be submitted to the addresses below:

Original and One Copy to:	One Copy to:
Engineering & Compliance Group	Air Surveillance Group
Attn: Assigned Engineer	Attn: Program Manager
State Street Commons	715 Grantham Lane
100 W. Water Street, Suite 6A	New Castle, DE 19720
Dover, DE 19904	

4.9.6.4 To be considered valid, the final results report shall include the emissions test report (including raw data from the test) as well as a summary of the results and a statement of compliance or non-compliance with permit conditions signed by a member of the Company's Health, Safety and Environment department.

4.9.6.5 The results must demonstrate to the Department's satisfaction that the emission unit is operating in compliance with the applicable regulations and conditions of this permit; if the final report of the test results shows non-compliance the owner or operator shall propose corrective action(s). Failure to demonstrate compliance through the test may result in enforcement action.

4.9.6.6 The Company may petition the Department for less frequent testing if future data shows that testing on an annual basis is unwarranted.

4.10 Compliance with Condition 3.1 shall be based on an instrument installed for continuously monitoring and recording the concentration (dry basis) of H_2S in RFG before it is combusted in any fuel burning device. The instrument shall be located downstream of all process steps which impact the composition of RFG prior to its being combusted in any fuel burning device. This instrument shall conform to the QA/QC requirements of Appendix "F" in 40 CFR 60. The H_2S monitor shall conform to Performance Specification 7 of 40 CFR 60, Appendix "B". Method 11 of 40 CFR 60, Appendix "A" shall be used for conducting the relative accuracy evaluations.

4.11 Compliance with Condition 3.2 shall be based on the record keeping requirements.

4.12 Department representatives shall be given the opportunity to witness all stack emission testing and monitor certification testing including any test audits conducted on the monitors as part of the Quality Assurance Program.

4.13 Compliance with Conditions 2.3 and 3.3 shall be based on information available to the Department, which may include, but is not limited to, monitoring results, opacity and process operating data.

5. Record Keeping Requirements

5.1 The Company shall maintain all records necessary for determining compliance with this permit in a readily accessible location for 5 years and shall make these records available to the Department upon written or verbal request.

5.2 The following records shall be maintained for a period of 5 years:

5.2.1 Log of all operating hours of each boiler clearly showing the hours of operation with different fuel types, i.e., hours of operation with natural gas, refinery fuel gas, and the amount of each fuel type consumed;

5.2.2 Rolling 24-hour heating values of the fuels combusted;

5.2.3 Opacity readings recorded by the COMS;

5.2.5 Log of daily qualitative stack observations for the package boilers

5.2.6 CEMS data including calibration log and results of all Cylinder Gas Audits and all Relative Accuracy Test Audits.

6. Reporting Requirements

6.1 Emissions in excess of any permit condition or emissions which create a condition of air pollution shall be reported to the Department immediately upon discovery and after activating the appropriate site emergency plan, in the following manner:

6.1.1 By calling the Department's Environmental Emergency Notification and Complaint number (800) 662-8802, if the emission poses an imminent and substantial danger to public health, safety or the environment.

6.1.2 Other emissions in excess of any permit condition or emissions which create a condition of air pollution may be called in to the Environmental Emergency Notification and Complaint number (800) 662-8802 or faxed to (302) 739-2466. The ability to fax in notifications may be revoked upon written notice to the Company by the Department in its sole discretion.

6.1.3 In addition to complying with Conditions 6.1.1 and 6.1.2 of this permit, the Owner/Operator shall satisfy any reporting required by the "Reporting of a Discharge of a Pollutant or an Air Contaminant" regulation, within 30 calendar days of becoming aware of an occurrence subject to reporting pursuant to these conditions. All reports submitted to the Department shall be submitted in writing and shall include the following information:

6.1.3.1 The name and location of the facility;

6.1.3.2 The subject sources that caused the emissions;

6.1.3.3 The time and date of the first observation of the excess emissions;

6.1.3.4 The cause and expected duration of the excess emissions;

6.1.3.5 For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission or operational limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and

6.1.3.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

6.1.4 Emissions on the same day from the same emission unit may be combined into one report. Emissions from the same cause that occur contemporaneously may also be combined into one report. The

Owner/Operator shall submit an electronic copy of all required reports to the Department's compliance engineer assigned to the Refinery.

6.2 The Company shall comply with the following semi-annual excess emissions reports. The reports for the preceding semi-annual period shall be submitted to the Department by January 31 and July 31 of each calendar year with a summary of all excess emissions for the semi-annual period. The summary shall include:

6.2.1 The name and location of the facility;
6.2.2 The subject sources that caused the excess emissions;
6.2.3 The time and date of the first observation of the excess emissions;
6.2.4 The cause and expected duration of the excess emissions;
6.2.5 The estimated amount of emissions (expressed in the units of applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
6.2.6 The proposed corrective actions and schedule to correct the conditions causing the excess emissions.
6.2.7 All periods of opacity exceedances.

6.3 Send one (1) original to:

The Program Administrator
Division of Air Quality
State Street Commons
100 W. Water Street, Suite 6A
Dover, DE 19904

and one (1) copy of all required reports to:

Program Manager
Engineering and Compliance Group
715 Grantham Lane
New Castle, DE 19720

7. Administrative Conditions

7.1 This permit shall be available on the premises.

7.2 This permit authorizes the operation of the equipment authorized to be constructed by **Permit: APC-90/0290-CONSTRUCTION (Amendment 10) – Boiler 3** and **Permit: APC-90/0291-CONSTRUCTION (Amendment 3) – Boiler 4** dated July 15, 2103 and supersedes **Permit: APC-90/0290-OPERATION (Amendment 10) – Boiler 3,** & **Permit: APC-90/0291-OPERATION (Amendment 3) – Boiler 4** dated May 19, 2014, and **Permit: APC-90/0290-CONSTRUCTION/OPERATION (Amendment 12) – Boiler 3,** & **Permit: APC-90/0291-CONSTRUCTION/OPERATION (Amendment 5) – Boiler 4** dated January 15, 2015.

7.3 Failure to comply with the provisions of this permit constitutes good cause for suspension or revocation of this permit.

Sincerely,

Angela D. Marconi, P.E., BCEE
Program Manager
Engineering & Compliance Branch

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pc: Dover Title V File
Dawn Minor
Lindsay Rennie